

#7



SEQUENCE LISTING

<110> Ebner et al.

<120> PT049P1

<130> Serine/Threonine Phosphatase Polynucleotides, Polypeptides, and Antibodies

<140> US 09/941,831

<141> 2001-08-30

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<150> US 60/186,350

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<160> 32

<170> PatentIn version 3.2

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| tctcccggac | tcttgaggtc | acatgcgtgg | tggtggacgt | aagccacgaa | gaccctgagg | 180 |
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| acaagagcag | gtggcagcag | gggaacgtct | tctcatgctc | cgtgatgcat | gaggctctgc | 660 |
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| ctgtcttcat | ttttaggag | tacaatcacc | tagatataga | tattttatgt | cttttctctc | 180 |
| ttagctcaaa | ttctcttctc | ttcgctttt | tgtctgtgt | tccaggaaaa | ttctttgact | 240 |
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| tcttattata | tagcagattt | cttgttttat | aggtgctatg | tttcaaaagg | cagtagaacg | 360 |
| taagtctaag | aatagagatt | ttagaacacc | tgggtgccta | ttttggctca | gtcacttact | 420 |
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| caattttctg | tttatgtttg | agaatatgga | actagattca | tcatctaggt | aggcagtata | 720 |
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| aaaaccctca | actggtgtaa | atcatgcaat | taaagttgat | tacttataaa | tatgaacttt | 840 |
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| aacgtgaggc | agttccctgc | gccttcagg | cagagttccc | gctctcttga | ggaattctgc | 540 |
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| gtccgtgcgc | gaggacactg | agccgggctg | gctctccttt | ctgtggtttt | atttaatggg | 1260 |
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| ggtgctgtac | agtggagagg | atgatgagct | gctacagcgg | gcagctgccc | ggggcttggc | 2580 |
| catgcttacc | tccatgcggc | ccacgctctg | cagccgcatt | ccccaagtga | ccacacactg | 2640 |
| gctggagatc | ctgcaggccc | tgcttctgag | ctccaaccag | gagctgcagc | accgggggtg | 2700 |
| tgtggtggtg | ctgaacatgg | tggaggcctc | gaggggagatt | gccagcacc | tgatggagag | 2760 |

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|------|
| tgagatgatg | gagatcttgt | cagtgcctagc | taaggggtgac | cacagccctg | tcacaagggc | 2820 |
| tgctgcagcc | tgccctggaca | aagcagtggg | atatgggctt | atccaaccca | accaagatgg | 2880 |
| agagtgaagg | ggttgtccct | gggcccgaag | ctcatgcaca | cgctacctat | tgtggcacgg | 2940 |
| agagtaagga | cggaagcagc | tttggctggt | ggtggctggc | atgcccata | ctcttgccca | 3000 |
| tcctcgcttg | ctgccctagg | atgtcctctg | ttctgagtca | gcggccacgt | tcagtcacac | 3060 |
| agccctgctt | ggccagcact | gcctgcagcc | tcactcagag | gggccccttt | tctgtactac | 3120 |
| tgtagtcagc | tgggaatggg | gaaggtgcat | cccaacacag | cctgtggatc | ctggggcatt | 3180 |
| tgggaagggc | cacacatcag | cagcctcacc | agctgtgagc | ctgctatcag | gcctgccctt | 3240 |
| ccaataaaa | tgtgtagaac | tccaaaaaaa | aaaaaaaaaa | aaaaaaaaaa | | 3289 |

<210> 6

<211> 1878

<212> DNA

<213> Homo sapiens

<400> 6

| | | | | | | |
|-------------|------------|------------|-------------|------------|-------------|------|
| catgattacg | ccaagcttgg | cacgagggtg | gaaaacgtga | aattggtgga | tcgttatgtg | 60 |
| agtaagaaac | cagctaattg | gattctttat | cttactgcaa | cccacctgat | ctatgtggag | 120 |
| gcttcagggtg | cagcccggaa | agaaacatgg | attgcactcc | atcacattgc | cactgtggag | 180 |
| aagttaccca | tcactagcct | gggttgctcc | ctgaccctcc | gctgcaagaa | tttccgggtg | 240 |
| gcccactttg | ttttagattc | tgaccttgtg | tgccatgagg | tttataattc | actgctcaag | 300 |
| ctttctcagc | cagcattacc | tgaagatctt | tatgcttttt | cttataatcc | caaatectca | 360 |
| aaagagatga | gggaaagtgg | atggaaactg | attgacccaa | tatcagactt | tgggcgtatg | 420 |
| ggaataccca | acagaaactg | gaccataaca | gatgccaaac | gaaactatga | gatatgcagc | 480 |
| acctaccctc | ctgaaatagt | ggttcctaaa | tctgttacct | tgggaacggt | ggttggaagt | 540 |
| tcaaagttca | gaagtaaaga | acgtgtccct | gtgctctcct | acctctacaa | agagaacaat | 600 |
| gctgccattt | gccgctgtag | ccagcctctc | tctggatttt | acactcgctg | tgtagatgat | 660 |
| gagctcttgt | tggaggccat | tagccaaaca | aacccaggga | gccagtttat | gtatgttgta | 720 |
| gacacaagac | caaagatctg | gcatttcctt | gtgctcataa | tgagaatagt | tctccaatta | 780 |
| gccaagatga | acctcatgga | catcaccaag | atcttctccc | tcctgcagcc | cgacaaggag | 840 |
| gaggaggaca | ctgacacaga | ggagaagcag | gctctcaatc | aagcagtgtg | tgacaacgac | 900 |
| tcctataact | tggaccagct | tttgcgccag | gagcggttaca | aacgtttcat | caacagcagg | 960 |
| agtggctggg | gtgttcctgg | gacacccttg | cgcttggtctg | cttcttatgg | ccacttgagc | 1020 |
| tgtttgcaag | tcctcttagc | ccatggtgct | gatgttgaca | gcttggatgt | caaggcacag | 1080 |
| acgccacttt | tcactgctgt | cagtcatggc | catctggact | gtgtacgtgt | gcttttgga | 1140 |
| gctggtgcct | ctcctgggtg | tagcatctac | aacaactgtt | ctcccgtgct | cacagctgcc | 1200 |
| cgtgatgggtg | ctgttgctat | cctgcaggag | ctcctagacc | atggtgcaga | ggccaacgtc | 1260 |
| aaagctaaac | taccagtctg | ggcatcaaac | atagcttcat | gttctggccc | cctctatttg | 1320 |
| gccgcagtct | acgggcacct | ggactgtttc | cgctgctttt | tgctccacgg | ggcagaccct | 1380 |
| gactacaact | gcactgacca | gggcctattg | gctcgtgtct | caagaccccg | caccctctt | 1440 |
| gaaatctgcc | tccatcataa | ttgtgagcca | gagtatatcc | agctgttaat | cgattttggt | 1500 |
| gctaataatct | accttccatc | tctctccctt | gacctgacct | cacaagatga | taaaggcatt | 1560 |
| gcattgctgc | tacaggcccc | agccactcca | cggctcacttc | tatcacaggt | ccgttttagtc | 1620 |
| gtccgcagag | ccttgtgcca | ggctggccag | ccacaagcca | tcaaccagct | ggatattcct | 1680 |
| cccatgttga | ttagctacct | aaaacaccaa | ctgtaatctt | gcagtctccc | caggaactta | 1740 |
| tgatgcctcc | gaaaaccacc | tggggactca | cgtagctgga | gagcattaca | gcctcatcca | 1800 |
| cttacctgga | gctgctctcc | tgtattatcc | tccacaataa | aattctccag | aaaataagta | 1860 |
| aaaaaaaaaa | aaaaaaaaaa | | | | | 1878 |

<210> 7

<211> 1492

<212> DNA

<213> Homo sapiens

<400> 7

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gggtgcactt | agcgcctccc | ttccctttcc | ctcggtctct | tcacttttcc | atcttgcaca | 60 |
| ctggcaatcg | ttcttgacct | ctgcccgcag | atcctgtgcc | ggatcagaa | tatctggaac | 120 |
| atcaacctgc | agttgcggcc | cagcctcata | acagggatca | tgaagacag | tggaaacaag | 180 |

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|------|
| cctccaggtc | tgcttccccg | caaaggacta | tacatggcaa | atgacttaaa | gctcctgaga | 240 |
| caccatctcc | agattcccat | ccacttcccc | aaggatttct | tgtctgtgat | gcttgaaaaa | 300 |
| ggatgaagaga | gtgggatgta | gacaggggat | ccagtgaaaa | acacagaagt | cggagattga | 360 |
| gggattgata | ggatggagg | gctgcgagg | actaaagcaa | gtgaagcctg | ccttgggaaa | 420 |
| cctcaggatc | agccttgagc | gagctgaagg | ttgccgggca | tgaaagggaa | gaagagcagg | 480 |
| caaataggtc | atgggaacct | tgggtgagag | gctgaggcg | gaggagctct | gggggatgtc | 540 |
| agaagcaagg | aagagctagt | cctccaccag | gaaagcagca | agaggagccc | tgctctggg | 600 |
| tgctctgcc | ccacaggaag | tttgtctgcc | atgcgtttcc | tcaccgccgt | gaacttggag | 660 |
| catccagaga | tgctggagaa | agcgtcccg | gagctgtgga | tgcgcgctctg | gtcaagggtg | 720 |
| agtgtggggc | tctgggaatc | ctctgggagg | accttggatg | actttctgac | cttccccagg | 780 |
| cacgttttca | gggtcatgat | cctgcccccg | cccgggggat | ctactgtcct | cccagtcaca | 840 |
| ccccctctccc | cgcaccgcct | tcctgctgtc | ttctcttctt | cccagaatga | agacatcacc | 900 |
| gagccgcaga | gcatcctggc | ggctgcagag | aaggctggta | tgtctgcaga | acaagcccag | 960 |
| ggacttctgg | aaaagatcgc | aacgccaag | gtgaagaacc | agctcaagga | gaccactgag | 1020 |
| gcagcctgca | gatacggagc | ctttgggctg | cccatcaccg | tggcccatgt | ggatggccaa | 1080 |
| acccacatgt | tatttggctc | tgaccggatg | gagctgctgg | cgcacctgct | gggagagaag | 1140 |
| tggatggggc | ctatacctcc | agccgtgaat | gccagacttt | aagattgccc | ggaggaagca | 1200 |
| aactcttcgt | ataaaaaaag | caggccatct | gcttaaccct | tggtccacc | ataaggcact | 1260 |
| gggactcgga | tttctctatc | tgatagaggt | atcttctgtg | gccctgggag | ctgtctgtct | 1320 |
| ttccccctacc | ccaaggatg | ccaggaagac | gtccaccatt | agccatgtgg | caacctttac | 1380 |
| ttctatgcct | cacaagtgcc | tttcagagag | ccccaatctt | gctttccac | aaaataaacc | 1440 |
| taatgccatc | aggcaaaaca | aaaaaaaaaa | aaaaaaaaaa | aaaaaaaaaa | aa | 1492 |

<210> 8

<211> 948

<212> DNA

<213> Homo sapiens

<400> 8

| | | | | | | |
|-------------|------------|-------------|------------|------------|-------------|-----|
| ttaaagggtcc | cacgtcctga | tggaaagcct | gacaaccttg | gcctattggt | attggatgaa | 60 |
| ccttctacaa | agcagtcaga | ccctacgggtg | ctctcactct | ggttaacaga | gaattctaag | 120 |
| cagcacaaca | tcacacaaca | tatgaaagta | aaaagcctag | aagatgcaga | aaagaatccc | 180 |
| aaagccattg | acacgtggat | tgagagcatc | tctgaattac | accgttctaa | gccccctgcg | 240 |
| actgtgcact | acaccaggcc | catgcccagc | attgacacgc | tgatgcagga | atgggtccccg | 300 |
| gagtttgaag | agcttttggg | caaggtaagc | ctgcccacgg | cagagattga | ttgcagcctg | 360 |
| gcagagtaca | ttgacatgat | ctgtgccatt | ctagacatcc | ctgtctacaa | gagtcggatc | 420 |
| cagtcctctc | atctgtctct | ttccctctac | tcagaattca | agaactcaca | gcatttttaa | 480 |
| gctctcgctg | aaggcaagaa | agcattcact | ccttcatcca | attccacctc | ccaagctgga | 540 |
| gacatggaga | cattaacctt | cagctgagac | acttcccaag | ctgctgtttc | aaggctgagc | 600 |
| tggccccctc | gccccagctg | agatggacag | atcggtgtca | gctacttgat | gtccttgccc | 660 |
| atgccacagc | ttggctcagg | ggcagtgcat | gtcctgctgc | cctctctgcc | agagggcaca | 720 |
| gaacatgttt | gtttaatgaa | cctgcctgcc | tcagattgct | gtccccgggg | agttaatgca | 780 |
| tctacaccac | tgtggggatt | tgagttataa | gaattggaat | ttctgagatc | ccatggaggt | 840 |
| tagattggga | ggaaagctta | aaagatgtcc | tttttgtgag | agggatggaa | ttgttttctt | 900 |
| tcattcgtaa | agttagttag | taaagatttt | ataaatcaaa | aaaaaaa | | 948 |

<210> 9

<211> 966

<212> DNA

<213> Homo sapiens

<400> 9

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ggcacgaggg | attatcaaaa | ttgtgcacaa | aaacagagca | caaatgctaa | caagggacag | 60 |
| agcctttgag | agcactctga | aatcttggga | agataagcag | aagtgtgatt | ctggtaaacc | 120 |
| agttctccga | acccatttgt | acatccatca | cgccattgac | ttggcaacag | aagaggtgtc | 180 |
| gcagatgcag | ctatgctccc | aggctgcaga | ggagctcatt | actaggatat | gtgacgcagc | 240 |
| cacaattcac | tgtcttttgg | agcaagaact | ggcccatgct | gtgaatgcct | gctcccatgc | 300 |
| cctgaataaa | gccaaaccaa | ggtgcccgga | gagctctaca | agagacactg | ccactgaaat | 360 |

| | | | | | | |
|------------|-------------|-------------|------------|-------------|-------------|-----|
| agccatcaat | gtgaaggcgc | tgtataatga | aacagaatct | ttgctagttg | gcagggttcc | 420 |
| tttgtagctg | gaatcgccac | atgaagagcg | agtatccaat | gccttacact | ctgtggaggt | 480 |
| ggaattacag | aaactgacag | agattccttg | gctttattat | atcttacacc | caaagtagga | 540 |
| tgaggaacct | cctatggatt | gcacccaaaag | gaacaacaga | agcaccgtat | ttcgaatagt | 600 |
| gccaaagttt | aaaaaggaaa | aggttcagaa | gcagaagaca | agttcacagc | ctggatctgg | 660 |
| ggataccgaa | agtgggtcat | gtgaagcgaa | ttctccaggg | aattaaagag | cttggaaagga | 720 |
| gcactccaca | gtcggagggtg | taatcatatt | gggtgctat | cttggaaagag | aagttattgc | 780 |
| cacttaatac | aaagtccttg | gaagcaagtg | gctgttcttg | tagttttctg | catagataag | 840 |
| taagcaccac | tgaagcacct | ctgtggcttg | atattttgct | gtgggtgaaa | ttttgatttg | 900 |
| aggtattaga | aaatattttt | gtgccgaaca | atacattcca | caaagccaaa | aaaaaaaaaa | 960 |
| aaaaaa | | | | | | 966 |

<210> 10
 <211> 665
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| <400> 10 | | | | | | |
| ggcacgagcc | ggatcggtcg | gaaatggcag | agggtggagga | gacactgaag | cgactgcaga | 60 |
| gccagaaggg | agtgcaggga | atcatcgctg | tgaacacaga | aggcattccc | atcaagagca | 120 |
| ccatggacaa | ccccaccacc | accagtatg | ccagcctcat | gcacagcttc | atcctgaagg | 180 |
| cacggagcac | cgtgcgtgac | atcgaccccc | agaacgatct | caccttcctt | cgaattcgct | 240 |
| ccaagaaaaa | tgaaattatg | gttgccaccag | ataaagacta | tttcctgatt | gtgattcaga | 300 |
| atccaaccga | ataagccact | ctcttggtct | cctgtgtcat | tccttaattt | aatgcccccc | 360 |
| aagaatgtta | atgtcaatca | tgtcagtggg | ctagcacatg | gcagtgcgtt | ggaaccact | 420 |
| cacaccaatc | cagtgaccgt | gtgtgggctg | gcggctcttc | tccccacca | acggaacccc | 480 |
| tgtgtgcacc | aaccttcccc | agagctccgg | agcgccctct | cctcacttcc | aggttttgga | 540 |
| gcaagagctt | gcaggaagcc | cgcacccagc | ttccttctga | ccttcagttc | actttgtcgc | 600 |
| ccttgagaga | agctgttttt | ctttaactaa | aaataaccaa | aatgctaaaa | aaaaaaaaaa | 660 |
| aaaaa | | | | | | 665 |

<210> 11
 <211> 4041
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|------------|------|
| <400> 11 | | | | | | |
| gggtcgaccc | acgcgtccgt | ttttttttta | cttctctgga | ttgtttaata | gtgtcaaaat | 60 |
| gaaagatcta | ttgaagtttc | actatacatt | gcattgattg | aaccttggag | agttttatga | 120 |
| aaaagagggg | catcccttgc | catctgtttg | ccagtcttcc | ttgccccttc | ctttgaaatg | 180 |
| cctgcctctt | ttttgcccag | attgtttcct | gaccatccga | actcagatgg | ggtcctctaa | 240 |
| gttcttctct | gatattcaca | aatcccttca | caaggcccac | gtgcgaagtg | aatgatctgg | 300 |
| agggtgcctg | gcattctgtg | tgggaaggag | tcaagactca | ccagccagtc | agtttgtggg | 360 |
| ctagagtgtg | cccacaaaaa | tcaggcatgt | tcacctcccc | tctgggcccc | tacagctggg | 420 |
| actgatcata | gcctcagatt | agaagaaata | ctgacttcta | actctataag | ccagcactcc | 480 |
| tgggttaagga | gtgaagctct | gttggccatg | ccgcttttga | ctgctgggca | gagctgagcc | 540 |
| tacagttttg | tactgggggtg | cacggatgac | agctgggaag | atggaaaggc | agcttgagga | 600 |
| tttatagcag | ctaaagggtg | aatgctgtta | tgcaaaaagg | ccccatatga | acttcttaca | 660 |
| gggtgtagccg | cagccaagtg | tctgtacagc | tgctgagaat | ttgtcgggtg | tgtaaaaatt | 720 |
| cctctttgca | tcacaagcga | gtggaaagcc | aggggctgca | tgagtggaga | aagcacagtc | 780 |
| tgggtttttca | agtactgcag | agaatgagaa | taccagcccg | ggagcctgga | gttgaggccc | 840 |
| gagttacaca | ggctcccggg | atacagacct | gggaagatag | gggaggagag | gggaagcttg | 900 |
| tggccttctg | atccgcccc | ggaatgcccc | ccgtgcgctg | ctttgctgcc | ttcactctcc | 960 |
| tgctcagagg | ccttctcctt | cccagagacc | tccttggtatg | ggtctaaggg | agacactgcc | 1020 |
| cgggcctttt | tccttgcaat | cacaagggtcc | aaatcctcca | ggctgcgctt | gatcggccgc | 1080 |
| gccgccccaa | tgttctgcgg | gtcatttttc | cgggtgcagga | ttgggtggac | catgccttcc | 1140 |
| atcttctctg | aattctccag | tctcacatgg | tgaggttttc | ctgatcttga | aagcgattca | 1200 |
| gggtattttt | tagggcctga | catgggtcatg | gggtgatccc | gacaggcttt | ggggtgacag | 1260 |

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|-------------|------|
| tctcgactct | ggctgcctaa | gacctggaac | tgggagatgc | ctttgctctc | ctggggccct | 1320 |
| gtggtggaat | gagccaggcc | caggaccttg | ccggtagggt | tgtgcgggtt | cttgggaagg | 1380 |
| ctcagatctg | taggctgatc | atccgtaggg | gctttctgctg | ccgccgactt | tttgtcttgc | 1440 |
| aggtgcaggg | acgtgagata | atttacatgg | agcttttctt | ggtgtctgtg | ggaaggaaaa | 1500 |
| gaactgtttt | ccgattccct | gtacatgtcc | ctggaagggt | atttggatgt | ctgttcatta | 1560 |
| tgaagatggg | gctcgggtgtg | tctgtagagg | ctatggagat | gaggggacga | gtagaagtca | 1620 |
| gccaggaagc | taggcattgtg | ggaatggggg | agggcccttt | tctctaagag | tttatccttg | 1680 |
| ccctcctgaa | tttcttgctt | caggacgtag | gagtcagcaa | gggggttaag | gtgatgcttg | 1740 |
| gagaagctgc | agcgggtggg | atctgatcga | ctcagtttct | catgcttaaa | gatgtcattg | 1800 |
| atggtctttc | tctcttccga | gggcttgctt | ctgaaactct | ggacgtgctg | aatcactgat | 1860 |
| ggccggctga | ccgccatatg | gtcagtgtct | tggccatggg | gggtctggga | caaactggaa | 1920 |
| cacaagtcac | ccctagcaat | cagtttcttt | ttgctgatca | aagggggtgg | ggagccataa | 1980 |
| gggtagctgc | tggagaggct | ggccccactc | acttgggaca | aaagcttttt | cttggccagt | 2040 |
| ggggacatga | tgcttggtt | gcccctagag | tagagcaggg | gcgtgtaatt | aagtccatga | 2100 |
| ttctcgttca | tgggccaggt | caggtctttg | tctttgaaca | tgtcaaacga | ctggaccaca | 2160 |
| aggacctttg | gggtctgctt | gagcgcattg | tggatgtcgt | cactgcccag | ctgggtccacc | 2220 |
| ttcacgggtgc | agttggcaat | gtaatctgcc | atggcgggca | gtttgtcatc | ctccgtctca | 2280 |
| ttctggtttg | ccagcgggtg | ctgtgtggtg | gggaagctgg | ggaaggatgc | ttcttggggg | 2340 |
| tcactttcag | ggctctctgt | aaaacagcac | agtttggtt | cttgttttga | gtccaccagg | 2400 |
| gcactaggag | aggtgagtg | ctgtttgctg | gccccaggga | ccaaggctga | atctttttct | 2460 |
| ggggccagag | gagcacttgg | gagtggagg | gtggggccct | tctctcccgc | ctcctctgcc | 2520 |
| accttctcac | tgttgaacc | ttggtctgtt | tcgttgcct | tctctgggtc | tactctggat | 2580 |
| gccaggggct | tcgctgaaaa | ttcctgatac | ccttctattt | ttttcttcat | gtctgtgtct | 2640 |
| gggagaggct | cagggatgct | ttcttggtt | attaaagtct | cttgttcttt | ttctgtctct | 2700 |
| gatgaaacct | ggtaacatat | ttcaaaagac | agtcagaaga | aaaccaaata | cacagacatg | 2760 |
| ttttgctatg | aaataaaata | ttccacacag | cagttttact | tgaanaacagg | cttgtcaatc | 2820 |
| agctcgtgaa | gtttctgtaa | agctttatta | ctccccaatc | atggctctaa | acaaagaaat | 2880 |
| ctaaattaca | gaaacattag | gggaaatatg | catattcgct | tcagtccctt | atgagatacc | 2940 |
| tatcaaaaata | gcaaagtatt | atgtactgat | ggatatacaat | catatcactc | cttgattcta | 3000 |
| atatatagtt | taattctaag | gttgtcttct | tgtcaaatca | gtcaattatc | caaatgggtt | 3060 |
| ttaaattaca | tgttgtgttt | tatgatactc | ctgagaaaga | ttttttttaa | gcatttctct | 3120 |
| ttcaaaaatc | caaccaaccc | catgttaacg | acaaacaaca | aacctattgc | aactccctgc | 3180 |
| tttctttaa | agggcaaate | ccttcccaat | gtattcaata | tgatgcactg | aagattagca | 3240 |
| atgcataaagt | gttaataatt | tctactcagg | gccagatgac | atgcagataa | tgctaaaata | 3300 |
| ttgacaaaagt | atgaagattt | cttggcagcc | tgtctaccag | agggacagag | gagactaagt | 3360 |
| ccttctaggt | tgcagcaaac | tacatttcta | ttaaagccca | aaatgaagtt | gtcaaaaattc | 3420 |
| agacagtcag | tgccaccgca | aatatagctt | tgctgttgaa | tgaataaat | tatagtcaat | 3480 |
| gagacagaca | cactccttat | gtgaccctac | tgacagaagt | tgtgggtacc | aattcgactc | 3540 |
| atttactgca | ttatgcagcc | atataaactt | tgaccttagg | aggtcatttt | aactttccat | 3600 |
| ctatgaccca | gctgactgac | aagccctttc | aaaactgctg | tcattctgcc | ctgacatgtc | 3660 |
| ttagcagagc | agtcacaaaa | cagttgtact | gagctgggtat | tcttcccctc | ctttttccat | 3720 |
| ctcatccctt | gaactttgtt | cttctctgtt | aagaaaagat | gtgcctgtaa | tctcagcact | 3780 |
| tagggaggcc | gaggcaggca | gatcacctga | ggtcaggagt | tcaagaccag | cctgggtcaac | 3840 |
| atggcaaaac | ctcatctcta | gtaaaaaaac | aaaaattagc | caggtgtggg | gggtgggtgcc | 3900 |
| tgtaatccca | gctactcagg | aggctgaggc | aggagaatcg | cttgaacccc | agaggtggag | 3960 |
| gatgcggtga | gccgagatca | tgccattgca | ctatagcttg | ggcaacaaga | gtgtaacttt | 4020 |
| cacaaaaaaa | aaaaaaaaaa | a | | | | 4041 |

<210> 12

<211> 3288

<212> DNA

<213> Homo sapiens

<400> 12

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| tacggcaagt | gatcaactct | ggcaaaatat | gtctttttaag | tcttcgtaca | cagtcattga | 120 |
| agactctccg | gaatttcagat | ttgaaaccat | atattatctt | cattgcaccc | ccttcacaag | 180 |
| aaagacttcg | ggcattattg | gccaaagaag | gcaagaatcc | aaagcctgaa | gagttgagag | 240 |
| aatcattga | gaagacaaga | gagatggagc | agaacaatgg | ccactacttt | gatacggcaa | 300 |

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| ttgtgaattc | cgatcttgat | aaagcctatc | aggaattgct | taggttaatt | aacaaacttg | 360 |
| atactgaacc | tcagtgggta | ccatccactt | ggctgagggtg | aaagaaacat | ccattctgtg | 420 |
| gcatgtttgga | cttgatctgg | caaaaactgc | caataggagg | actgcccgcac | actgcagcaa | 480 |
| gattgaggat | aagatggaag | gcagcagtat | aagctgtaga | tctgttctta | gatctcttga | 540 |
| attagtgaga | cgacagttcc | cttaggcagt | ttgtgcatgg | catcctttat | tctctataca | 600 |
| tggttttagc | ggttcttgcc | tcattttggg | attctaaatg | gaagctttca | acagagcatt | 660 |
| ccattttgtc | ctgttaaaac | cttttgtttt | cacctaaacc | ctttctgctt | agttgtatct | 720 |
| ctgtgaaaaa | cttgatataca | caagcgtcca | tgtctcacac | aaatattgat | gtgattattc | 780 |
| ttaagtgtta | aatcattaac | acttaaata | cttcattggg | aatattgagc | agagggactg | 840 |
| tgcttctatg | cactgggcaa | ggcagtattt | gcttaggaaa | ctaatttagt | catcagagat | 900 |
| actttcctaa | aaaggaaaaa | taaaaaacaa | aatggtgcca | ctttgggttg | aagctacttt | 960 |
| gttaggcttg | aattcattta | tatgtctttt | gattcttaaa | aaaacaaaaa | acattccatt | 1020 |
| agaagcacca | gtttttttgc | tcagactttg | tggatcacag | tctacactca | acacactcta | 1080 |
| atctacttaa | aggtatacaa | aatatgctga | tcttttttaa | attatgattt | cctgaatttt | 1140 |
| tttcttaagt | cgtctcaact | gatttactca | cttagcttcc | cttccctcat | cagcatagta | 1200 |
| taatagaatg | tatgttacat | ttttatgaat | ggcaggtggt | cattataatc | tgtattgact | 1260 |
| taaaaagttt | cttccctcatg | atgctaata | ttttttgtat | acatgggagg | atagcacatt | 1320 |
| tgacagtttt | tgcattttta | tgtatgagca | cagtatccta | tgactgtgct | acgtatatat | 1380 |
| aggtaataaa | ctggaattct | gttgatgaat | atagctgctg | tactgtatat | taatatttaa | 1440 |
| tagatcaaca | aatggtcatt | gaaaacactt | gttttagcatt | agaataaaat | tatatatgtc | 1500 |
| cttgggaaat | attatgacag | ttgactttta | gatcaaaagg | aaaggaagac | ctgaaagtca | 1560 |
| tttgaacatt | ttaggaaaaa | aatattggag | agaaaaaggt | attaaatata | tagaaatagg | 1620 |
| tttttaacct | aacaaggtct | gcctcttatg | acgagaatgc | aacagcttgg | taaatcataa | 1680 |
| aagaacactt | taagctaata | ggattttcgt | actgtctcta | tagctgtagc | tttaaaattc | 1740 |
| aacgtatata | attggcatgg | aaacttaatt | tgcagtcttt | tcaagccttt | aggatagtgt | 1800 |
| gatgtgtaac | aaacaacctc | aaatgtgaat | gccttgattt | tatttttatg | gtgacttttag | 1860 |
| ctacagcatt | tcctataccc | agagctaaac | actggaataa | tactgacatc | atttaattta | 1920 |
| acataagcaa | ttatgtttta | ggagtaattt | gtgtcatgta | catatttgat | tgattttttt | 1980 |
| tcttctacat | aatttttattt | gaacaaatgt | agacagttta | tatgttgcc | ttttctgttc | 2040 |
| aaattttgcat | ggcctattta | gttggctgga | gagtgtttta | tgtggaaata | ttttcaagat | 2100 |
| aatgttccct | aggaagaaaa | taacattctt | gggttgaggg | aaggaatgcc | atacactact | 2160 |
| gtctcttcag | atctgaaata | ctccagttta | gagccaggaa | atttcacagg | tcacaccgat | 2220 |
| ttttctcatt | caagctaata | gaatataact | agcacttact | taatcttttc | agttttccag | 2280 |
| tttacgtctc | aggaatgaag | tgtagtctat | ggttgacaat | ggagttttgt | gatcctgctt | 2340 |
| attgtaactg | acaactgttt | tcaactccaa | gagctaaact | attggcagtt | catgttaagt | 2400 |
| tagagtgagg | gtgtaggtag | tgtcagtgag | tggctcttgt | gcctgctgta | gacattaggc | 2460 |
| ctgcactagg | gccatgtgct | gtcaagattc | aggaacatgg | ctttaacaag | cagatcttgt | 2520 |
| atcaaggcag | aggtgatgcc | atgccatact | tttaggaagt | ctgagatgat | aaatatttca | 2580 |
| aggtcagtga | agtctatcaa | tcattctccc | cttccctcatc | agcaatggta | gatagaaatg | 2640 |
| tcctaaactt | ttctaaatcc | tagtgatgag | gatgtgctga | tattcaacat | agtccttaaa | 2700 |
| gtgaaacttg | agttgttgct | gacctccaca | aaagaatatg | gaaaaaagcc | ttgtgtgaca | 2760 |
| cctagtgtga | caagcaactc | ggccaattcc | atttctgtgc | cctctgtggt | tctgactgga | 2820 |
| gaccccagtg | tgggggaggt | cttaccattt | aatatagaaa | tgatatcaat | aactaatgct | 2880 |
| atgtacttgg | aaaatccaaa | taaggaagtt | ttaggttggg | gcataacttt | gtttctcaaa | 2940 |
| ttttcgttgt | cagaacaaat | ggaaggagaa | tattatttag | actaatccag | atttgctttc | 3000 |
| tatgaaaatc | taatgtctgg | attatcttcc | ttttctcatg | gcctaagaaa | taaggatcaa | 3060 |
| taaggaatga | tttgaatgta | attttgtgaa | tgtgtggaaa | atataaagca | gggatttagc | 3120 |
| cttaataaaag | gtaaccttct | gacatctggt | gttaatcccc | ctttgtactc | ttttctgtga | 3180 |
| tctgcactct | gttattttga | gatgtcatac | tgtacactgt | attgtaaaaa | taaaaagtaa | 3240 |
| aattatatatt | caaaaaaaaa | aaaaaaaaaa | aaaaaaaaaa | aaaaaaaaa | | 3288 |

<210> 13
 <211> 1771
 <212> DNA
 <213> Homo sapiens

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| gaaactatct | gcttcttaat | ttgattatac | atcaattatg | ttcaaagtaa | aaaacaaggt | 120 |

| | | | | | | |
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| aatttgaaac | agctgctttt | atccaggtgt | atacacggtg | tatacatata | cagatatgta | 180 |
| tgaaatgtgg | aactctatac | ccgtatgtat | ggagttcctc | ataagagtct | ttttgagaaa | 240 |
| atagttccat | tgctaaaaat | acccaatgga | aactttctggc | ctgggatttc | caagttcacc | 300 |
| ctcggtgtg | catctcaaag | tccacacagc | ctcaccaaaa | tagcccttct | gggtactttt | 360 |
| ttctgtgtgt | tcttgaggga | ggccatcgtg | cctccagctc | cctaaggcgg | aagatgagcc | 420 |
| agcggggatc | tttgagggt | ggttggttct | cgttccttcc | accgaagcct | tccatggcat | 480 |
| ttttgggacc | tggaattgtg | aattattctg | cctcttcccc | acagtccctg | atgacagcat | 540 |
| gaagttcaga | gagtttattt | gcagatgagg | cagggaagcc | ggcctgttct | catcttgctg | 600 |
| tgctgatgc | cttgtgcttg | gggcactggt | cactgtgctg | cctgctggcc | tgcttgctct | 660 |
| tgctttttgg | acgggagata | ggccacccca | cagtgccaca | cctgccttca | gggaagcttt | 720 |
| tgggtgttcc | ttgtctggct | tctgggttca | gtgggagggc | ccaccagcc | tgtcatttta | 780 |
| atgatttacc | ttagaggagc | cagttttata | gggagttggt | ggataatctt | cacaaggcag | 840 |
| ataaatggga | gagcaggaag | aatgatggcc | tttcagagtt | gaaatctgtg | ctgctccaaa | 900 |
| tcccataaac | tgctatttga | ttttaaacat | tgcttgaagc | ggttcacatt | ttggttaatt | 960 |
| acgtcagtg | gtaaaaataa | ctattgtcat | atggtgtgtg | ggcttggctt | tagaaggata | 1020 |
| aagagtctat | tgttacccat | tgtgctattc | agtcacttat | taccatcct | taaaagccca | 1080 |
| acgtggataa | cagaaaacct | ggagagcttt | gtcacttgct | gaaatccaag | ctgccctgtg | 1140 |
| aatttatccc | caaacactgc | tccttttgag | aaacttgtag | aagctgcctt | aattcagtca | 1200 |
| attcaaattg | gttgatgggg | gctgttccca | aggcccagga | caggcagggg | tttgtgacct | 1260 |
| gcagccctgg | aactgccttt | gggtttcatg | gtctcagttg | agacctgcc | agggttgaac | 1320 |
| cagcttagtg | ctccctgggg | gtggttaagt | tcaaggactt | cagggtccga | ttgaccttgg | 1380 |
| gctgaatctt | gacctggggc | tgtaagatgc | tcggtcagga | ccttaacttt | tccaaggctc | 1440 |
| ggtgtctaca | tctggaaaat | ggggataaac | acagttcctc | cctgctggga | ttattgtaag | 1500 |
| gcttgaatga | gatgataaat | acaacatctg | acttgcgact | ggacggtagc | aaagggttta | 1560 |
| gttaatatga | taataagtag | aatggaacag | cattagattc | tcacacaggg | tcactatgtt | 1620 |
| gtttttctcc | attctacccc | tgcatattac | cctgaagcac | ccccaagcct | ctccctccag | 1680 |
| ccaataggca | gctttcttaa | ctatcctaac | aagccttga | ccaaatggaa | ataaagcttt | 1740 |
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<210> 14

<211> 3625

<212> DNA

<213> Homo sapiens

<400> 14

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| tgctgagggg | catttttgaga | aatgaagatt | cagggttcaga | aacagcatat | ttagaaaaca | 120 |
| gatctaattc | tagaccttta | gaaagcaaaa | gatacggatc | aaaaaagaaa | agacatgaaa | 180 |
| aacatactat | tccttttggtg | gtccagaaa | aaacatcatc | ttcagataat | aagaaacaga | 240 |
| tacctaatga | agcttctgct | agaagtgaag | gagacacatc | agacctagag | caaaactggt | 300 |
| cattgcaaga | tcattataga | atgtattcac | ccataatata | ccaagccctc | tgtgagcacg | 360 |
| tgcaactca | gatgtcactg | atgaatgact | tgacttcaaa | gaacatccct | aatggaattc | 420 |
| ctgctgtacc | atgccatgct | ccctctcatt | ctgaatctca | ggcaactcct | cattctagtt | 480 |
| atggcttatg | tacctccacc | ccagtctggt | cacttcagcg | gccaccctgc | cctccaaagg | 540 |
| ttcattctga | agttcaaact | gatggcaaca | gtcagtttgc | atcacaaggt | aaaacagttt | 600 |
| ctgcaacctg | tactgatgtt | ctacggaatt | catttaatac | cagtcctgga | gttccatgta | 660 |
| gctgcccga | aactgacata | tcagctattc | caacattgca | gcaactgggc | cttggttaatg | 720 |
| gaattctgcc | acaacaagga | attcataagg | aaacagacct | actaaaatgt | attcaaacat | 780 |
| atttgtctct | ttttcgatct | catggaaaag | aaacgcattc | ggacagtcag | acacaccgaa | 840 |
| gccctactca | gtcacaaacca | gctttcttgg | ccactaatga | agaaaaatgt | gccagagagc | 900 |
| aaattagaga | ggccacaagt | gaaagaaaagg | atttaaaca | acatgtgcga | gatacaaaaa | 960 |
| cagtgaagga | tgtacagaag | gcaaaaaatg | tgaacaagac | agctgaaaaa | gttagaatta | 1020 |
| taaaatattt | gttgggagag | ctcaaggccc | tggtagcaga | acaagaggat | tcagaaattc | 1080 |
| agaggttgat | tacagaaatg | gaggcatgta | tatctgtact | tccaacagta | agtggaaaca | 1140 |
| cagatattca | agttgagata | gcactggcca | tgcaaccatt | aagaagtgag | aatgctcagt | 1200 |
| tacgaaggca | gttgagaatt | ttgaaccagc | aactcagaga | acaacagaaa | actcaaaaac | 1260 |
| catctggtgc | tgtggattgc | aaccttgaat | tgttttctct | tcagtcattg | aatatgtcac | 1320 |
| tgcaaaatca | attggaggag | tcactaaaga | gccaggaatt | actgcagagt | aaaaatgaag | 1380 |
| agctgttaaa | agtgattgaa | aatcagaaag | atgaaaacaa | aaaatttagt | agtatatatta | 1440 |

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| aagacaaaga | tcaaactata | cttgaaaata | aacagcaata | tgatattgag | ataacaagaa | 1500 |
| taaaaattga | attggaggaa | gccctagtca | atgtgaaaag | ctcccagttt | aagttagaaa | 1560 |
| ctgctgaaaa | ggaaaaccag | atattgggga | taacattacg | tcagcgtgat | gctgaggtga | 1620 |
| ctcgactaag | agaattaacc | agaactttac | agactagcat | ggcaaagctt | ctctccgata | 1680 |
| ttagtgtgga | cagtgtctgc | tgcaagcctg | ggaataacct | taccaaatac | ctcttgaaca | 1740 |
| ttcatgataa | acaacttcaa | catgacccag | ctcctgctca | cacttccata | atgagctatc | 1800 |
| taaataagtt | agaaacaaat | tacagtttta | cacattcaga | gccactttct | acaattaaaa | 1860 |
| atgaggaaac | catagagcca | gacaaaacct | atgaaaatgt | tctgtcctcc | agaggccctc | 1920 |
| aaaatagtaa | cactaggggc | atggagggaag | catctgcacc | tggaattatt | tctgcccttt | 1980 |
| tcaaaacagg | attctgatga | agggagtga | actatggctt | taatagaaga | tgagcataat | 2040 |
| ttggataata | caattttacat | tccttttgct | agaagcactc | ctgaaaagaa | atcaccactt | 2100 |
| tctaagagac | tatccccctca | gccacaaaata | agagcagcta | caacacagct | agtcagcaac | 2160 |
| agtggacttg | ctgtctctgg | aaaagaaaat | aaactgtgta | cacctgtaat | ctgttcctct | 2220 |
| tcaacaaagg | aagcagaaga | tgcacctgaa | aaactttcca | gagcatctga | tatgaaggac | 2280 |
| acacagctcc | tcaagaaaat | aaagggaagca | attggtaaga | tccctgctgc | caccaaggag | 2340 |
| ccagaggaac | aaactgcatg | tcatggccca | tcagggtgtc | ttagcaacag | ccttcaagtg | 2400 |
| aaaggcaata | ctgtctgtga | tggtagtgtt | ttcacttctg | acttgatgtc | tgactggagc | 2460 |
| atctcttcgt | tttcaacggt | cacttctcgt | gatgaacaag | acttcagaaa | tggccttgcg | 2520 |
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| tgaattcaga | agaaaattca | tcagggtgctt | cttttttaaaa | ctagaacttg | gctatatattg | 2640 |
| atgtgtatatt | ttcttttagtg | aaatgatgtt | ttatgttatt | atgtgtgaag | taatatattg | 2700 |
| tacaagtaat | aaatgtattg | ttgagatata | ttgacactga | ggagcttata | aaaacaagtc | 2760 |
| atcttaagtt | cacaattgct | acaagaagaa | agttgtggat | aactaggaaa | ttattgttaag | 2820 |
| taatgtttta | tttcagtact | tagcaattag | agttctttta | ttaagatgta | tctgctggat | 2880 |
| taaggggtaca | ggttgaaata | gttctgtggc | tgtcctaaga | aataatggga | aaagaatctc | 2940 |
| tggtatgtaag | tttttctgtt | gaaactagag | ggtttttttt | ttctgtttac | atatactttt | 3000 |
| ttttaaatagc | aatgtgtttt | tattaaacat | gctgtgtgcc | acaggccagt | gttgttggtg | 3060 |
| aaatatataa | acattttattt | aaagagaaaa | gttaccagta | tctacacctc | ttaaaaaaca | 3120 |
| ttgattggtc | taaaaaatat | atagataaca | tcctaagtta | acatatggct | tcttaaaaact | 3180 |
| tggggcacttt | tatttgtttt | tatcccaaat | tcattgtttta | aggcctttta | agaatagtca | 3240 |
| gactgataaa | gaagtgtctaa | cagataagct | atagttgggg | aaatttgggtg | gtttttttta | 3300 |
| aataagaaa | gtttattttt | gtccttatat | ttaaacatga | tggattttgt | aaatcctggc | 3360 |
| attgattgta | attctgcctt | tttggaagaa | tttttctcc | cagcatgtta | gctgagataa | 3420 |
| ttctctatatt | tataaataat | atgaagtagg | ttggtctctc | tgcttctcta | taccaggact | 3480 |
| tcttagctca | gtatcatctc | ccttcatgta | agcagcacgt | tttaactctt | aggaagctga | 3540 |
| atgttgtgtt | atcactaata | ctttgtacag | gtcacctgcc | tactctaatt | gtccttagta | 3600 |
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<210> 15

<211> 1454

<212> DNA

<213> Homo sapiens

<400> 15

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| cgagactgac | agcatcttaa | atgggtcactt | ttagaggaat | ggctaaagta | tgatatatcc | 120 |
| atactactga | acactttgca | atcataaaga | aaggatgaga | acgttccata | agtttaaata | 180 |
| gaaagaattc | taatgatgtg | taaaataaaa | caagggtacac | aacagtgtgt | aatgtgtgct | 240 |
| actatttgct | taagaagatc | gctatatata | tgtttgcttg | taaatgccta | gaagagtctc | 300 |
| agtaagatac | aaaaggatct | ggtaacttta | gctgtctctg | gaatgccaga | ggaatgcctg | 360 |
| ggggacagga | gtaggaggga | gaccttcttg | tgacattatt | ttgcaaaact | tactgagttt | 420 |
| tgaatcatgt | gactatgtta | tatcttaaaa | ccatttaact | ctaaaaattt | taagccaaaa | 480 |
| aataaatata | caaatatagt | taaatagcat | ttataggacg | ccattagttt | ggacagagct | 540 |
| actgcattag | gcttaataga | tcaaatcaaa | atggagtcac | tcattgctgaa | gttctagatt | 600 |
| gccgtgctga | aactaagctg | tttatctgag | cttcctagaa | atcaggacaa | agagagagat | 660 |
| aacagccaaa | tccccaacaa | agccagtttt | agccggcata | ataaagaagt | cccctctgct | 720 |
| ttaactctta | caagagaagt | aactatgaaa | tgaccaatcc | atttttgtcc | tctgtttcta | 780 |
| ccttcttcag | ccctttctcg | cctaaagcca | acttcctctg | ctcagctcat | cggaaacctc | 840 |
| attctgtttt | acggaaggag | gtgttatgca | attctaaaaat | tgcaagtaaa | agtcagctag | 900 |

| | | | | | | |
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| atcgttaaac | taaatttatt | gtaattttgt | cttttgacaa | tataaagcat | ataatgaaca | 960 |
| aactacagaa | actgctcaat | actcctaaat | ttataaattc | agtcaagaaa | aatgccttga | 1020 |
| aatatagaca | ataaggttgt | attgacattc | aaactcaccc | atgggtttcca | aatccaagag | 1080 |
| ccagggctga | gcacagcatt | cagactatca | gcaccatcat | ttccttgccct | tttgtggtat | 1140 |
| caaaggcaag | ctaaggtgta | taagtttact | gaagattttc | attttcctaa | tgcggttaca | 1200 |
| attagaagtt | ttccactgaa | attatttgca | tttcagttat | agtttttttt | ggtcagagat | 1260 |
| acatctattg | tggattaata | gcctgtgggt | attgaaatta | ttgaaaaata | actctatatg | 1320 |
| atcaaggaac | tttcatgtct | taaaaaatag | ttatgaaaac | ttaacataga | cagatgtcct | 1380 |
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Arg Tyr Arg Tyr Phe Met Ser Phe Leu Ser
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<210> 17
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<400> 17
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 1 5 10 15

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 20 25 30

Thr Leu Ala Glu Leu Asp Ser Ser Glu Ser Glu Glu Thr Leu His
 35 40 45

Lys Ser Thr Ser Ser Ser Ser Val Ser Pro Ser Phe Pro Glu Glu Pro
 50 55 60

Val Leu Glu Ala Val Ser Thr Arg Lys Lys Pro Pro Lys Phe Leu Pro
 65 70 75 80

Ile Ser Ser Thr Pro Gln Pro Glu Arg Arg Gln Pro Pro Gln Arg Arg
 85 90 95

His Ser Ile Glu Lys Glu Thr Pro Thr Asn Val Arg Gln Phe Leu Pro
 100 105 110

Pro Ser Arg Gln Ser Ser Arg Ser Leu Glu Glu Phe Cys Tyr Pro Val
 115 120 125

Glu Cys Leu Ala Leu Thr Val Glu Glu Val Met His Ile Arg Gln Val
 130 135 140

Leu Val Lys Ala Glu Leu Glu Lys Tyr Gln Gln Tyr Lys Asp Ile Tyr
 145 150 155 160
 Thr Ala Leu Lys Lys Gly Lys Leu Cys Phe Cys Cys Arg Thr Arg Arg
 165 170 175
 Phe Ser Phe Phe Thr Trp Ser Tyr Thr Cys Gln Phe Cys Lys Arg Pro
 180 185 190
 Val Cys Ser Gln Cys Cys Lys Lys Met Arg Leu Pro Ser Lys Pro Tyr
 195 200 205
 Ser Thr Leu Pro Ile Phe Ser Leu Gly Pro Ser Ala Leu Gln Arg Gly
 210 215 220
 Glu Ser Ser Met Arg Ser Glu Lys Pro Ser Thr Ala His His Arg Pro
 225 230 235 240
 Leu Arg Ser Ile Ala Arg Phe Ser Ser Lys Ser Lys Ser Met Asp Lys
 245 250 255
 Ser Asp Glu Glu Leu Gln Phe Pro Lys Glu Leu Met Glu Asp Trp Ser
 260 265 270
 Thr Met Glu Val Cys Val Asp Cys Lys Lys Phe Ile Ser Glu Ile Ile
 275 280 285
 Ser Ser Ser Arg Arg Ser Leu Val Leu Ala Asn Lys Arg Ala Arg Leu
 290 295 300
 Lys Arg Lys Thr Gln Ser Phe Tyr Met Ser Ser Pro Gly Pro Ser Glu
 305 310 315 320
 Tyr Cys Pro Ser Glu Arg Thr Ile Ser Glu Ile
 325 330

<210> 18
 <211> 425
 <212> PRT
 <213> Homo sapiens

<400> 18
 Met Ser Gly Ala Gln Ala Lys Ala Ala Val Ile Val Gly Cys Ile Gly
 1 5 10 15
 Val Ile Ala Glu Val Asp Lys Ala Ala Leu Glu Lys Arg His Arg Gln
 20 25 30
 Gly Trp Leu Met Glu Val Thr Asp Ser Leu Asp Arg Cys Ile Gln Arg
 35 40 45
 Leu Arg Glu Ala Arg Lys Lys Lys Glu Val Leu Ser Leu Gly Tyr His
 50 55 60
 Gly Asn Val Val Ala Leu Trp Glu Arg Leu Val His Glu Leu Asp Thr
 65 70 75 80
 Thr Gly Glu Cys Leu Val Asp Leu Gly Ser Asp Gln Thr Ser Cys His

Ala Cys His Leu Leu Gln Val Met Phe Asp Ala Leu Lys Glu Gly Val
 260 265 270
 Lys Lys Gly Phe Arg Gly Lys Glu Gly Ala Ile Ile Val Asp Pro Ala
 275 280 285
 Arg Glu Leu Lys Val Leu Ile Ser Asn Leu Leu Asp Leu Leu Thr Glu
 290 295 300
 Val Gly Val Ser Gly Gln Gly Arg Asp Asn Ala Leu Thr Leu Leu Ile
 305 310 315 320
 Lys Ala Val Pro Arg Lys Ser Leu Lys Asp Pro Asn Asn Ser Leu Thr
 325 330 335
 Leu Trp Val Ile Asp Gln Gly Leu Lys Lys Ile Leu Glu Val Gly Gly
 340 345 350
 Ser Leu Gln Asp Pro Pro Gly Glu Leu Ala Val Thr Ala Asn Ser Arg
 355 360 365
 Met Ser Ala Ser Ile Leu Leu Ser Lys Leu Phe Asp Asp Leu Lys Cys
 370 375 380
 Asp Ala Glu Arg Glu Asn Phe His Arg Leu Cys Glu Asn Tyr Ile Lys
 385 390 395 400
 Ser Trp Phe Glu Gly Gln Gly Leu Ala Gly Lys Leu Arg Ala Ile Gln
 405 410 415
 Thr Val Ser Cys Leu Leu Gln Gly Pro Cys Asp Ala Gly Asn Arg Ala
 420 425 430
 Leu Glu Leu Ser Gly Val Met Glu Ser Val Ile Ala Leu Cys Ala Ser
 435 440 445
 Glu Gln Glu Glu Glu Gln Leu Val Ala Val Glu Ala Leu Ile His Ala
 450 455 460
 Ala Gly Lys Ala Lys Arg Ala Ser Phe Ile Thr Ala Asn Gly Val Ser
 465 470 475 480
 Leu Leu Lys Asp Leu Tyr Lys Cys Ser Glu Lys Asp Ser Ile Arg Ile
 485 490 495
 Arg Ala Leu Val Gly Leu Cys Lys Leu Gly Ser Ala Gly Gly Thr Asp
 500 505 510
 Phe Ser Met Lys Gln Phe Ala Glu Gly Ser Thr Leu Lys Leu Ala Lys
 515 520 525
 Gln Cys Arg Lys Trp Leu Cys Asn Asp Gln Ile Asp Ala Gly Thr Arg
 530 535 540
 Arg Trp Ala Val Glu Gly Leu Ala Tyr Leu Thr Phe Asp Ala Asp Val
 545 550 555 560
 Lys Glu Glu Phe Val Glu Asp Ala Ala Ala Leu Lys Ala Leu Phe Gln
 565 570 575

Leu Ser Arg Leu Glu Glu Arg Ser Val Leu Phe Ala Val Ala Ser Ala
 580 585 590
 Leu Val Asn Cys Thr Asn Ser Tyr Asp Tyr Glu Glu Pro Asp Pro Lys
 595 600 605
 Met Val Glu Leu Ala Lys Tyr Ala Lys Gln His Val Pro Glu Gln His
 610 615 620
 Pro Lys Asp Lys Pro Ser Phe Val Arg Ala Arg Val Lys Lys Leu Leu
 625 630 635 640
 Ala Ala Gly Val Val Ser Ala Met Val Cys Met Val Lys Thr Glu Ser
 645 650 655
 Pro Val Leu Thr Ser Ser Cys Arg Glu Leu Leu Ser Arg Val Phe Leu
 660 665 670
 Ala Leu Val Glu Glu Val Glu Asp Arg Gly Thr Val Val Ala Gln Gly
 675 680 685
 Gly Gly Arg Ala Leu Ile Pro Leu Ala Leu Glu Gly Thr Asp Val Gly
 690 695 700
 Gln Thr Lys Ala Ala Gln Ala Leu Ala Lys Leu Thr Ile Thr Ser Asn
 705 710 715 720
 Pro Glu Met Thr Phe Pro Gly Glu Arg Ile Tyr Glu Val Val Arg Pro
 725 730 735
 Leu Val Ser Leu Leu His Leu Asn Cys Ser Gly Leu Gln Asn Phe Glu
 740 745 750
 Ala Leu Met Ala Leu Thr Asn Leu Ala Gly Ile Ser Glu Arg Leu Arg
 755 760 765
 Gln Lys Ile Leu Lys Glu Lys Ala Val Pro Met Ile Glu Gly Tyr Met
 770 775 780
 Phe Glu Glu His Glu Met Ile Arg Arg Ala Ala Thr Glu Cys Met Cys
 785 790 795 800
 Asn Leu Ala Met Ser Lys Glu Val Gln Asp Leu Phe Glu Ala Gln Gly
 805 810 815
 Asn Asp Arg Leu Lys Leu Leu Val Leu Tyr Ser Gly Glu Asp Asp Glu
 820 825 830
 Leu Leu Gln Arg Ala Ala Ala Gly Gly Leu Ala Met Leu Thr Ser Met
 835 840 845
 Arg Pro Thr Leu Cys Ser Arg Ile Pro Gln Val Thr Thr His Trp Leu
 850 855 860
 Glu Ile Leu Gln Ala Leu Leu Leu Ser Ser Asn Gln Glu Leu Gln His
 865 870 875 880
 Arg Gly Ala Val Val Val Leu Asn Met Val Glu Ala Ser Arg Glu Ile
 885 890 895

Ala Ser Thr Leu Met Glu Ser Glu Met Met Glu Ile Leu Ser Val Leu
900 905 910

Ala Lys Gly Asp His Ser Pro Val Thr Arg Ala Ala Ala Cys Leu
915 920 925

Asp Lys Ala Val Glu Tyr Gly Leu Ile Gln Pro Asn Gln Asp Gly Glu
930 935 940

<210> 20

<211> 449

<212> PRT

<213> Homo sapiens

<400> 20

Met Arg Glu Ser Gly Trp Lys Leu Ile Asp Pro Ile Ser Asp Phe Gly
1 5 10 15

Arg Met Gly Ile Pro Asn Arg Asn Trp Thr Ile Thr Asp Ala Asn Arg
20 25 30

Asn Tyr Glu Ile Cys Ser Thr Tyr Pro Pro Glu Ile Val Val Pro Lys
35 40 45

Ser Val Thr Leu Gly Thr Val Val Gly Ser Ser Lys Phe Arg Ser Lys
50 55 60

Glu Arg Val Pro Val Leu Ser Tyr Leu Tyr Lys Glu Asn Asn Ala Ala
65 70 75 80

Ile Cys Arg Cys Ser Gln Pro Leu Ser Gly Phe Tyr Thr Arg Cys Val
85 90 95

Asp Asp Glu Leu Leu Leu Glu Ala Ile Ser Gln Thr Asn Pro Gly Ser
100 105 110

Gln Phe Met Tyr Val Val Asp Thr Arg Pro Lys Ile Trp His Phe Leu
115 120 125

Val Leu Ile Met Arg Ile Val Leu Gln Leu Ala Lys Met Asn Leu Met
130 135 140

Asp Ile Thr Lys Ile Phe Ser Leu Leu Gln Pro Asp Lys Glu Glu Glu
145 150 155 160

Asp Thr Asp Thr Glu Glu Lys Gln Ala Leu Asn Gln Ala Val Tyr Asp
165 170 175

Asn Asp Ser Tyr Thr Leu Asp Gln Leu Leu Arg Gln Glu Arg Tyr Lys
180 185 190

Arg Phe Ile Asn Ser Arg Ser Gly Trp Gly Val Pro Gly Thr Pro Leu
195 200 205

Arg Leu Ala Ala Ser Tyr Gly His Leu Ser Cys Leu Gln Val Leu Leu
210 215 220

Ala His Gly Ala Asp Val Asp Ser Leu Asp Val Lys Ala Gln Thr Pro
 225 230 235 240
 Leu Phe Thr Ala Val Ser His Gly His Leu Asp Cys Val Arg Val Leu
 245 250 255
 Leu Glu Ala Gly Ala Ser Pro Gly Gly Ser Ile Tyr Asn Asn Cys Ser
 260 265 270
 Pro Val Leu Thr Ala Ala Arg Asp Gly Ala Val Ala Ile Leu Gln Glu
 275 280 285
 Leu Leu Asp His Gly Ala Glu Ala Asn Val Lys Ala Lys Leu Pro Val
 290 295 300
 Trp Ala Ser Asn Ile Ala Ser Cys Ser Gly Pro Leu Tyr Leu Ala Ala
 305 310 315 320
 Val Tyr Gly His Leu Asp Cys Phe Arg Leu Leu Leu Leu His Gly Ala
 325 330 335
 Asp Pro Asp Tyr Asn Cys Thr Asp Gln Gly Leu Leu Ala Arg Val Pro
 340 345 350
 Arg Pro Arg Thr Leu Leu Glu Ile Cys Leu His His Asn Cys Glu Pro
 355 360 365
 Glu Tyr Ile Gln Leu Leu Ile Asp Phe Gly Ala Asn Ile Tyr Leu Pro
 370 375 380
 Ser Leu Ser Leu Asp Leu Thr Ser Gln Asp Asp Lys Gly Ile Ala Leu
 385 390 395 400
 Leu Leu Gln Ala Arg Ala Thr Pro Arg Ser Leu Leu Ser Gln Val Arg
 405 410 415
 Leu Val Val Arg Arg Ala Leu Cys Gln Ala Gly Gln Pro Gln Ala Ile
 420 425 430
 Asn Gln Leu Asp Ile Pro Pro Met Leu Ile Ser Tyr Leu Lys His Gln
 435 440 445

Leu

<210> 21
 <211> 199
 <212> PRT
 <213> Homo sapiens

<400> 21
 Met Trp Val Trp Pro Ser Thr Trp Ala Thr Val Met Gly Ser Pro Lys
 1 5 10 15
 Ala Pro Tyr Leu Gln Ala Ala Ser Val Val Ser Leu Ser Trp Phe Phe
 20 25 30
 Thr Phe Gly Val Ala Ile Phe Ser Arg Ser Pro Trp Ala Cys Ser Ala

| 35 | | | | | 40 | | | | | 45 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Pro | Ala | Phe | Ser | Ala | Ala | Ala | Arg | Met | Leu | Cys | Gly | Ser | Val |
| 50 | | | | | | 55 | | | | | 60 | | | | |
| Met | Ser | Ser | Phe | Trp | Glu | Glu | Glu | Lys | Thr | Ala | Gly | Arg | Arg | Cys | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Arg | Gly | Val | Thr | Gly | Arg | Thr | Val | Asp | Pro | Pro | Gly | Gly | Gly | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Met | Thr | Leu | Lys | Thr | Cys | Leu | Gly | Lys | Val | Arg | Lys | Ser | Ser | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Leu | Pro | Glu | Asp | Ser | Gln | Ser | Pro | Thr | Leu | Thr | Leu | Asp | Gln | Thr |
| | | 115 | | | | | | 120 | | | | | 125 | | |
| Arg | Ile | His | Ser | Ser | Arg | Asp | Ala | Phe | Ser | Ser | Ile | Ser | Gly | Cys | Ser |
| | 130 | | | | | 135 | | | | | | 140 | | | |
| Lys | Phe | Thr | Ala | Val | Arg | Lys | Arg | Met | Ala | Asp | Lys | Leu | Pro | Val | Gly |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gln | Arg | His | Pro | Glu | Ala | Gly | Leu | Leu | Leu | Leu | Leu | Ser | Trp | Trp | Arg |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Thr | Ser | Ser | Ser | Leu | Leu | Leu | Thr | Ser | Pro | Arg | Ala | Pro | Pro | Pro | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Ser | His | Pro | Arg | Phe | Pro | | | | | | | | | |
| | | 195 | | | | | | | | | | | | | |

<210> 22
 <211> 141
 <212> PRT
 <213> Homo sapiens

| | | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 22 | | | | | | | | | | | | | | | |
| Met | Lys | Val | Lys | Ser | Leu | Glu | Asp | Ala | Glu | Lys | Asn | Pro | Lys | Ala | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Thr | Trp | Ile | Glu | Ser | Ile | Ser | Glu | Leu | His | Arg | Ser | Lys | Pro | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Thr | Val | His | Tyr | Thr | Arg | Pro | Met | Pro | Asp | Ile | Asp | Thr | Leu | Met |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Glu | Trp | Ser | Pro | Glu | Phe | Glu | Glu | Leu | Leu | Gly | Lys | Val | Ser | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Thr | Ala | Glu | Ile | Asp | Cys | Ser | Leu | Ala | Glu | Tyr | Ile | Asp | Met | Ile |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Cys | Ala | Ile | Leu | Asp | Ile | Pro | Val | Tyr | Lys | Ser | Arg | Ile | Gln | Ser | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| His | Leu | Leu | Phe | Ser | Leu | Tyr | Ser | Glu | Phe | Lys | Asn | Ser | Gln | His | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |

Lys Ala Leu Ala Glu Gly Lys Lys Ala Phe Thr Pro Ser Ser Asn Ser
 115 120 125

Thr Ser Gln Ala Gly Asp Met Glu Thr Leu Thr Phe Ser
 130 135 140

<210> 23
 <211> 234
 <212> PRT
 <213> Homo sapiens

<400> 23
 Ala Arg Gly Ile Ile Lys Ile Val His Lys Asn Arg Ala Gln Met Leu
 1 5 10 15

Thr Arg Asp Arg Ala Phe Glu Ser Thr Leu Lys Ser Trp Glu Asp Lys
 20 25 30

Gln Lys Cys Asp Ser Gly Lys Pro Val Leu Arg Thr His Leu Tyr Ile
 35 40 45

His His Ala Ile Asp Leu Ala Thr Glu Glu Val Ser Gln Met Gln Leu
 50 55 60

Cys Ser Gln Ala Ala Glu Glu Leu Ile Thr Arg Ile Cys Asp Ala Ala
 65 70 75 80

Thr Ile His Cys Leu Leu Glu Gln Glu Leu Ala His Ala Val Asn Ala
 85 90 95

Cys Ser His Ala Leu Asn Lys Ala Asn Pro Arg Cys Pro Glu Ser Leu
 100 105 110

Thr Arg Asp Thr Ala Thr Glu Ile Ala Ile Asn Val Lys Ala Leu Tyr
 115 120 125

Asn Glu Thr Glu Ser Leu Leu Val Gly Arg Val Pro Leu Gln Leu Glu
 130 135 140

Ser Pro His Glu Glu Arg Val Ser Asn Ala Leu His Ser Val Glu Val
 145 150 155 160

Glu Leu Gln Lys Leu Thr Glu Ile Pro Trp Leu Tyr Tyr Ile Leu His
 165 170 175

Pro Asn Glu Asp Glu Glu Pro Pro Met Asp Cys Thr Lys Arg Asn Asn
 180 185 190

Arg Ser Thr Val Phe Arg Ile Val Pro Lys Phe Lys Lys Glu Lys Val
 195 200 205

Gln Lys Gln Lys Thr Ser Ser Gln Pro Gly Ser Gly Asp Thr Glu Ser
 210 215 220

Gly Ser Cys Glu Ala Asn Ser Pro Gly Asn
 225 230

<210> 24

<211> 96
 <212> PRT
 <213> Homo sapiens

<400> 24
 Met Ala Glu Val Glu Glu Thr Leu Lys Arg Leu Gln Ser Gln Lys Gly
 1 5 10 15
 Val Gln Gly Ile Ile Val Val Asn Thr Glu Gly Ile Pro Ile Lys Ser
 20 25 30
 Thr Met Asp Asn Pro Thr Thr Thr Gln Tyr Ala Ser Leu Met His Ser
 35 40 45
 Phe Ile Leu Lys Ala Arg Ser Thr Val Arg Asp Ile Asp Pro Gln Asn
 50 55 60
 Asp Leu Thr Phe Leu Arg Ile Arg Ser Lys Lys Asn Glu Ile Met Val
 65 70 75 80
 Ala Pro Asp Lys Asp Tyr Phe Leu Ile Val Ile Gln Asn Pro Thr Glu
 85 90 95

<210> 25
 <211> 696
 <212> PRT
 <213> Homo sapiens

<400> 25
 Met Lys Lys Lys Ile Glu Gly Tyr Gln Glu Phe Ser Ala Lys Pro Leu
 1 5 10 15
 Ala Ser Arg Val Asp Pro Glu Lys Asp Asn Glu Thr Asp Gln Gly Ser
 20 25 30
 Asn Ser Glu Lys Val Ala Glu Glu Ala Gly Glu Lys Gly Pro Thr Pro
 35 40 45
 Pro Leu Pro Ser Ala Pro Leu Ala Pro Glu Lys Asp Ser Ala Leu Val
 50 55 60
 Pro Gly Ala Ser Lys Gln Pro Leu Thr Ser Pro Ser Ala Leu Val Asp
 65 70 75 80
 Ser Lys Gln Glu Ser Lys Leu Cys Cys Phe Thr Glu Ser Pro Glu Ser
 85 90 95
 Glu Pro Gln Glu Ala Ser Phe Pro Ser Phe Pro Thr Thr Gln Pro Pro
 100 105 110
 Leu Ala Asn Gln Asn Glu Thr Glu Asp Asp Lys Leu Pro Ala Met Ala
 115 120 125
 Asp Tyr Ile Ala Asn Cys Thr Val Lys Val Asp Gln Leu Gly Ser Asp
 130 135 140

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Asp | Ile | His | Asn | Ala | Leu | Lys | Gln | Thr | Pro | Lys | Val | Leu | Val | Val | Gln | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ser | Phe | Asp | Met | Phe | Lys | Asp | Lys | Asp | Leu | Thr | Gly | Pro | Met | Asn | Glu | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Asn | His | Gly | Leu | Asn | Tyr | Thr | Pro | Leu | Leu | Tyr | Ser | Arg | Gly | Asn | Pro | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Gly | Ile | Met | Ser | Pro | Leu | Ala | Lys | Lys | Lys | Leu | Leu | Ser | Gln | Val | Ser | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Gly | Ala | Ser | Leu | Ser | Ser | Ser | Tyr | Pro | Tyr | Gly | Ser | Pro | Pro | Pro | Leu | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Ile | Ser | Lys | Lys | Lys | Leu | Ile | Ala | Arg | Asp | Asp | Leu | Cys | Ser | Ser | Leu | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Ser | Gln | Thr | His | His | Gly | Gln | Ser | Thr | Asp | His | Met | Ala | Val | Ser | Arg | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Pro | Ser | Val | Ile | Gln | His | Val | Gln | Ser | Phe | Arg | Ser | Lys | Pro | Ser | Glu | |
| | | 260 | | | | | | 265 | | | | | 270 | | | |
| Glu | Arg | Lys | Thr | Ile | Asn | Asp | Ile | Phe | Lys | His | Glu | Lys | Leu | Ser | Arg | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Ser | Asp | Pro | His | Arg | Cys | Ser | Phe | Ser | Lys | His | His | Leu | Asn | Pro | Leu | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Ala | Asp | Ser | Tyr | Val | Leu | Lys | Gln | Glu | Ile | Gln | Glu | Gly | Lys | Asp | Lys | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Leu | Leu | Glu | Lys | Arg | Ala | Leu | Pro | His | Ser | His | Met | Pro | Ser | Phe | Leu | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Ala | Asp | Phe | Tyr | Ser | Ser | Pro | His | Leu | His | Ser | Leu | Tyr | Arg | His | Thr | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Glu | His | His | Leu | His | Asn | Glu | Gln | Thr | Ser | Lys | Tyr | Pro | Ser | Arg | Asp | |
| | 355 | | | | | | 360 | | | | | 365 | | | | |
| Met | Tyr | Arg | Glu | Ser | Glu | Asn | Ser | Ser | Phe | Pro | Ser | His | Arg | His | Gln | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Glu | Lys | Leu | His | Val | Asn | Tyr | Leu | Thr | Ser | Leu | His | Leu | Gln | Asp | Lys | |
| 385 | | | | | 390 | | | | | 395 | | | | 400 | | |
| Lys | Ser | Ala | Ala | Ala | Glu | Ala | Pro | Thr | Asp | Asp | Gln | Pro | Thr | Asp | Leu | |
| | | | | 405 | | | | | 410 | | | | | 415 | | |
| Ser | Leu | Pro | Lys | Asn | Pro | His | Lys | Pro | Thr | Gly | Lys | Val | Leu | Gly | Leu | |
| | | | 420 | | | | | 425 | | | | | 430 | | | |
| Ala | His | Ser | Thr | Thr | Gly | Pro | Gln | Glu | Ser | Lys | Gly | Ile | Ser | Gln | Phe | |
| | | 435 | | | | | 440 | | | | | 445 | | | | |
| Gln | Val | Leu | Gly | Ser | Gln | Ser | Arg | Asp | Cys | His | Pro | Lys | Ala | Cys | Arg | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |

Val Ser Pro Met Thr Met Ser Gly Pro Lys Lys Tyr Pro Glu Ser Leu
 465 470 475 480
 Ser Arg Ser Gly Lys Pro His His Val Arg Leu Glu Asn Phe Arg Lys
 485 490 495
 Met Glu Gly Met Val His Pro Ile Leu His Arg Lys Met Ser Pro Gln
 500 505 510
 Asn Ile Gly Ala Ala Arg Pro Ile Lys Arg Ser Leu Glu Asp Leu Asp
 515 520 525
 Leu Val Ile Ala Gly Lys Lys Ala Arg Ala Val Ser Pro Leu Asp Pro
 530 535 540
 Ser Lys Glu Val Ser Gly Lys Glu Lys Ala Ser Glu Gln Glu Ser Glu
 545 550 555 560
 Gly Ser Lys Ala Ala His Gly Gly His Ser Gly Gly Gly Ser Glu Gly
 565 570 575
 His Lys Leu Pro Leu Ser Ser Pro Ile Phe Pro Gly Leu Tyr Ser Gly
 580 585 590
 Ser Leu Cys Asn Ser Gly Leu Asn Ser Arg Leu Pro Ala Gly Tyr Ser
 595 600 605
 His Ser Leu Gln Tyr Leu Lys Asn Gln Thr Val Leu Ser Pro Leu Met
 610 615 620
 Gln Pro Leu Ala Phe His Ser Leu Val Met Gln Arg Gly Ile Phe Thr
 625 630 635 640
 Ser Pro Thr Asn Ser Gln Gln Leu Tyr Arg His Leu Ala Ala Ala Thr
 645 650 655
 Pro Val Gly Ser Ser Tyr Gly Asp Leu Leu His Asn Ser Ile Tyr Pro
 660 665 670
 Leu Ala Ala Ile Asn Pro Gln Ala Ala Phe Pro Ser Ser Gln Leu Ser
 675 680 685
 Ser Val His Pro Ser Thr Lys Leu
 690 695

<210> 26

<211> 132

<212> PRT

<213> Homo sapiens

<400> 26

His Glu Ile Glu His Gly Glu Phe Glu Lys Asn Leu Tyr Gly Thr Ser
 1 5 10 15

Ile Asp Ser Val Arg Gln Val Ile Asn Ser Gly Lys Ile Cys Leu Leu
 20 25 30

Ser Leu Arg Thr Gln Ser Leu Lys Thr Leu Arg Asn Ser Asp Leu Lys
 35 40 45

Pro Tyr Ile Ile Phe Ile Ala Pro Pro Ser Gln Glu Arg Leu Arg Ala
 50 55 60
 Leu Leu Ala Lys Glu Gly Lys Asn Pro Lys Pro Glu Glu Leu Arg Glu
 65 70 75 80
 Ile Ile Glu Lys Thr Arg Glu Met Glu Gln Asn Asn Gly His Tyr Phe
 85 90 95
 Asp Thr Ala Ile Val Asn Ser Asp Leu Asp Lys Ala Tyr Gln Glu Leu
 100 105 110
 Leu Arg Leu Ile Asn Lys Leu Asp Thr Glu Pro Gln Trp Val Pro Ser
 115 120 125
 Thr Trp Leu Arg
 130

<210> 27
 <211> 95
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Leu Ser Ser Gly Thr Val Gly Lys Arg Gln Asn Asn Ser Gln Phe
 1 5 10 15
 Gln Val Pro Lys Met Pro Trp Lys Ala Ser Val Glu Gly Thr Arg Thr
 20 25 30
 Asn His Pro Ala Lys Ile Pro Ala Gly Ser Ser Ser Ala Leu Gly Ser
 35 40 45
 Trp Arg His Asp Gly Leu Leu Gln Glu His Thr Glu Lys Ser Thr Gln
 50 55 60
 Lys Gly Tyr Phe Gly Glu Ala Val Trp Thr Leu Arg Cys Thr Ala Glu
 65 70 75 80
 Gly Glu Leu Gly Asn Pro Arg Pro Glu Val Ser Ile Gly Tyr Phe
 85 90 95

<210> 28
 <211> 558
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Tyr Ser Pro Ile Ile Tyr Gln Ala Leu Cys Glu His Val Gln Thr
 1 5 10 15
 Gln Met Ser Leu Met Asn Asp Leu Thr Ser Lys Asn Ile Pro Asn Gly
 20 25 30
 Ile Pro Ala Val Pro Cys His Ala Pro Ser His Ser Glu Ser Gln Ala
 35 40 45

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Thr | Pro | His | Ser | Ser | Tyr | Gly | Leu | Cys | Thr | Ser | Thr | Pro | Val | Trp | Ser | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Leu | Gln | Arg | Pro | Pro | Cys | Pro | Pro | Lys | Val | His | Ser | Glu | Val | Gln | Thr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Asp | Gly | Asn | Ser | Gln | Phe | Ala | Ser | Gln | Gly | Lys | Thr | Val | Ser | Ala | Thr | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Cys | Thr | Asp | Val | Leu | Arg | Asn | Ser | Phe | Asn | Thr | Ser | Pro | Gly | Val | Pro | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Cys | Ser | Leu | Pro | Lys | Thr | Asp | Ile | Ser | Ala | Ile | Pro | Thr | Leu | Gln | Gln | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Leu | Gly | Leu | Val | Asn | Gly | Ile | Leu | Pro | Gln | Gln | Gly | Ile | His | Lys | Glu | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Thr | Asp | Leu | Leu | Lys | Cys | Ile | Gln | Thr | Tyr | Leu | Ser | Leu | Phe | Arg | Ser | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| His | Gly | Lys | Glu | Thr | His | Leu | Asp | Ser | Gln | Thr | His | Arg | Ser | Pro | Thr | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Gln | Ser | Gln | Pro | Ala | Phe | Leu | Ala | Thr | Asn | Glu | Glu | Lys | Cys | Ala | Arg | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Glu | Gln | Ile | Arg | Glu | Ala | Thr | Ser | Glu | Arg | Lys | Asp | Leu | Asn | Ile | His | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Val | Arg | Asp | Thr | Lys | Thr | Val | Lys | Asp | Val | Gln | Lys | Ala | Lys | Asn | Val | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Asn | Lys | Thr | Ala | Glu | Lys | Val | Arg | Ile | Ile | Lys | Tyr | Leu | Leu | Gly | Glu | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Leu | Lys | Ala | Leu | Val | Ala | Glu | Gln | Glu | Asp | Ser | Glu | Ile | Gln | Arg | Leu | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Ile | Thr | Glu | Met | Glu | Ala | Cys | Ile | Ser | Val | Leu | Pro | Thr | Val | Ser | Gly | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Asn | Thr | Asp | Ile | Gln | Val | Glu | Ile | Ala | Leu | Ala | Met | Gln | Pro | Leu | Arg | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Ser | Glu | Asn | Ala | Gln | Leu | Arg | Arg | Gln | Leu | Arg | Ile | Leu | Asn | Gln | Gln | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Leu | Arg | Glu | Gln | Gln | Lys | Thr | Gln | Lys | Pro | Ser | Gly | Ala | Val | Asp | Cys | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Asn | Leu | Glu | Leu | Phe | Ser | Leu | Gln | Ser | Leu | Asn | Met | Ser | Leu | Gln | Asn | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Gln | Leu | Glu | Glu | Ser | Leu | Lys | Ser | Gln | Glu | Leu | Leu | Gln | Ser | Lys | Asn | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Glu | Glu | Leu | Leu | Lys | Val | Ile | Glu | Asn | Gln | Lys | Asp | Glu | Asn | Lys | Lys | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |

Phe Ser Ser Ile Phe Lys Asp Lys Asp Gln Thr Ile Leu Glu Asn Lys
 370 375 380
 Gln Gln Tyr Asp Ile Glu Ile Thr Arg Ile Lys Ile Glu Leu Glu Glu
 385 390 395 400
 Ala Leu Val Asn Val Lys Ser Ser Gln Phe Lys Leu Glu Thr Ala Glu
 405 410 415
 Lys Glu Asn Gln Ile Leu Gly Ile Thr Leu Arg Gln Arg Asp Ala Glu
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 Val Thr Arg Leu Arg Glu Leu Thr Arg Thr Leu Gln Thr Ser Met Ala
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 Lys Leu Leu Ser Asp Leu Ser Val Asp Ser Ala Arg Cys Lys Pro Gly
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 465 470 475 480
 His Asp Pro Ala Pro Ala His Thr Ser Ile Met Ser Tyr Leu Asn Lys
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 Leu Glu Thr Asn Tyr Ser Phe Thr His Ser Glu Pro Leu Ser Thr Ile
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 Lys Asn Glu Glu Thr Ile Glu Pro Asp Lys Thr Tyr Glu Asn Val Leu
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